

## REMARKS

These Remarks are in reply to the Final Office Action mailed March 17, 2009. Claims 1-28 were pending in the Application prior to the outstanding Office Action. Claims 1, 2, 6, 7, 10, 12, 13, 14, 22, 24, 25, 27 and 28 are currently being amended and claims 5, 8, 9, 11, 20, 21 and 23 are being canceled, leaving claims 1-4, 6, 7, 10, 12-19, 22 and 24-28 for the Examiner's consideration, with claims 1 and 14 being independent. Support for claim amendments is provided explicitly and/or inherently in the application as originally filed, and thus, no new matter has been added. In view of the above amendments and the remarks below, Applicants respectfully request that the rejections be reconsidered and withdrawn, and that a Notice of Allowance be issued.

### **I. Claim Rejection Under 35 U.S.C. § 112**

Claim 27 was rejected under 35 U.S.C. § 112, second paragraph. Claim 27 has been amended to overcome this rejection. Accordingly, it is respectfully requested that this rejection be reconsidered and withdrawn.

### **II. Summary of Claim Rejections under 35 U.S.C. § 103(a)**

Claims 1, 3, 5-16 and 18-28 were rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over U.S. Patent Publication No. 2001/0010482 to Oki et al. (hereafter referred to as "Oki") in view of U.S. Patent No. 6,683,494 (hereafter referred to as "Stanley").

Claims 4 and 17 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Oki in view of U.S. Patent No. 6,396,250 to Bridge (referred to hereafter as "Bridge").

*(a discussion of the claims begins on the next page)*

### III. Discussion of Claims

**Claim 1**, as amended, is reproduced below for the convenience of the Examiner.

1. A system comprising:
  - a digital amplifier controller;
  - an amplifier output stage coupled to the controller, and configured to receive audio signals from the controller;
  - a plurality of sensors coupled to the output stage;
  - a plurality of comparators each configured to compare an output from one of the sensors to a corresponding comparator threshold and produce a binary protection signal indicative of whether the comparator threshold is exceeded; and
  - a plurality of accumulators each configured to receive a said binary protection signal from a corresponding one of the comparators, increment a corresponding count when the received binary protection signal is a first state, decrement the corresponding count when the received binary protection signal is a second state, and output a signal indicative of a potential failure condition when the corresponding count exceeds a corresponding accumulator threshold;
- wherein the amplifier output stage includes at least two transistors;
- wherein the controller is configured to perform one of a plurality of different programmable responses in dependence on the signals indicative of potential failure conditions; -
- wherein one or more of the plurality of different programmable responses causes the system to operate in a modified manner without causing a turning off of any of the transistors of the amplifier output stage; and
- wherein in dependence on a said signal indicative of a potential failure condition being output by a said accumulator, the system operates in a modified manner for at least a period of time during which the potential failure condition persists until the corresponding count of the accumulator is sufficiently decremented such that the count no longer exceeds the corresponding accumulator threshold.

Claim 1, as amended, requires “a plurality of accumulators each configured to receive a said binary protection signal from a corresponding one of the comparators, increment a corresponding count when the received binary protection signal is a first state, decrement the corresponding count when the received binary protection signal is a second state, and output a signal indicative of a potential failure condition when the corresponding count exceeds a corresponding accumulator threshold” ... “wherein in

dependence on a said signal indicative of a potential failure condition being output by a said accumulator, the system operates in a modified manner for at least a period of time during which the potential failure condition persists until the corresponding count of the accumulator is sufficiently decremented such that the count no longer exceeds the corresponding accumulator threshold.”

Applicants respectfully assert that Oki and Stanley, alone or in combination do not teach or suggest these features of claim 1. Oki, as explained in the Office Action, teaches that the output of a counter (e.g., 44 in FIG. 9) can be compared to a value (by comp 2 in FIG. 9) in order to trigger a short circuit detection output signal. However, the counter of Oki can only be incremented, never decremented. Accordingly, Oki certainly can not teach or suggest that “in dependence on a said signal indicative of a potential failure condition being output by a said accumulator, the system operates in a modified manner for at least a period of time during which the potential failure condition persists until the corresponding count of the accumulator **is sufficiently decremented such that the count no longer exceeds the corresponding accumulator threshold.**”

Applicants note that in the rejection of claim 8 (now canceled) the Examiner took official notice that accumulators were well known in the art and use of such would have been an obvious design choice. Applicants respectfully disagree with this assertion. While Applicants are not asserting that they invented accumulators that can be incremented and decremented, Applicants believe that there specific use of accumulators in the claimed system is novel and unobvious. Further, in claim 1, as amended, additional details are provided of how accumulators are used, and how the counts and outputs of such accumulators are affected and used in the claimed system.

Applicants believe that claim 1 as amended clearly distinguishes the claimed invention from the combination of Oki and Stanley.

Applicants respectfully assert that it would not be proper for the Examiner to rely on official notice to assert that it would have been obvious that to include accumulators in a system such that “in dependence on a said signal indicative of a potential failure condition being output by a said accumulator, the system operates in a modified manner for at least a period of time during which the potential failure condition persists until the corresponding count of the accumulator is sufficiently decremented such that the count

no longer exceeds the corresponding accumulator threshold.” In other words, Applicants traverse such an assertion of official notice. Further, if the Examiner decides to rely on official notice in a further Office Action, Applicants respectfully request that appropriate documentary evidence as required by MPEP 2144.03.C be provided to support the use of such official notice in the further Office Action.

For at least the reasons specified above, Applicants respectfully request that the 103(a) rejection of claim 1 be reconsidered and withdrawn.

**Claims 2-4, 6, 7, 10, 12 and 13** depend from and add additional features to claim 1. Applicants respectfully assert that these claims are patentable over the cited references for at least the reason that they depend from claim 1, as well as for the features that they add.

**Claim 14**, as amended, is reproduced below for the convenience of the Examiner.

14. A method for use with a system including an audio amplifier output stage, the method comprising:  
driving the audio amplifier output stage in dependence on received audio signals;  
using a sensor to sense a condition of the audio amplifier output stage, wherein the amplifier output stage includes at least two transistors;  
comparing an output of the sensor to a first threshold to produce a binary protection signal indicative of whether the first threshold is exceeded;  
incrementing a count when the binary protection signal is a first state;  
decrementing the count when the binary protection signal is a second state;  
producing a signal indicative of a potential failure condition when the count exceeds a second threshold;  
performing one of a plurality of different programmable responses in dependence on the signal indicative of the potential failure condition, wherein the performed response causes the system to operate in a modified manner without causing a turning off of any of the transistors of the amplifier output stage; and  
continuing to operate the system in a modified manner for at least a period of time during which the potential failure condition persists until the count is sufficiently decremented such that the count no longer exceeds the second threshold.

Applicants respectfully assert that claim 14 is patentable over the cited references for at least similar reasons to those discussed above with regards to claim 1. Accordingly, Applicants respectfully request that the rejection of claim 14 be reconsidered and withdrawn.

**Claims 15-19, 22 and 24-28** depend from and add additional features to claim 14. Applicants respectfully assert that these claims are patentable over the cited references for at least the reason that they depend from claim 14, as well as for the features that they add.

#### **IV. Conclusion**

In light of the above, it is respectfully requested that all outstanding rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge the required fees and any underpayment of fees or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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